

AM100151 P1  
PATENTDECLARATION AND POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled Branched Adamantyl and Noradamantyl Aryl- and Aralkylpiperazines with Serotonin 5-HT1A Activity, the specification of which

(check one) \_\_\_\_\_ is attached hereto.

\_\_\_\_\_ was filed on \_\_\_\_\_ as  
Application Serial No. \_\_\_\_\_  
and was amended on \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed  
Yes No

(Number)	(Country)	(Day/Month/Year Filed)
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I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States Provisional Application(s) for Patent listed below:

<u>60/228,820</u> (Provisional Appln. No.)	<u>November 12, 1999</u> (Filing Date)	which was converted from U.S. Patent Application No. 09/439,798, filed November 12, 1999, pursuant to a petition filed under 37 C.F.R. 1.53(c)(2)(i).
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<u>Not Yet Known</u> (Provisional Appln. No.)	<u>November 18, 1999</u> (Filing Date)	which was converted from U.S. Patent Application No. 09/442,981, filed November 18, 1999, pursuant to a petition filed under 37 C.F.R. 1.53(c)(2)(i).
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I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States Application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

AM100151 P1  
PATENT

_____ (Application Serial No.)	_____ (Filing Date)	Pending (Status - Patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	(Status - Patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

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AM100151 P1  
PATENT

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23 October 2000  
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- 1 -

5                   **BRANCHED ADAMANTYL AND NORADAMANTYL ARYL- AND  
ARALKYLPIPERAZINES WITH SEROTONIN 5-HT<sub>1A</sub> ACTIVITY**

                  This application claims the benefit of U.S. Provisional Application No.  
60/228,820, which was converted from U.S. Patent Application No. 09/439,798, filed  
10 November 12, 1999; and U.S. Provisional Application No. Not Yet Known, filed  
November 18, 1999, which was converted from U.S. Patent Application No.  
09/442,981, pursuant to a petition filed under 37 C.F.R. 1.53(c)(2)(i).

                  This invention relates to novel branched adamantyl, noradamantyl aryl and  
15 aralkylpiperazines having serotonin 5-HT<sub>1A</sub> activity. More particularly, the present  
invention relates to compounds and methods using them to provide neuroprotection  
and prevent, inhibit or limit processes of neurodegeneration in mammals.

**Introduction**

20                   Compounds having selective agonist and partial agonist activity at the 5-HT<sub>1A</sub>  
receptor have established a presence in the marketplace as effective anxiolytic agents  
(buspirone, Buspar®, US Patent 3,717,634). Evidence generated over the past 20  
years supports the hypothesis that 5-HT<sub>1A</sub> agonists and partial agonists may find use  
25 in the treatment of several diseases such as anxiety, depression, schizophrenia, sexual  
dysfunction, cognitive deficits resulting from neurodegenerative diseases like  
Alzheimer's Disease, nausea and vomiting, sleep disorders, pain, obesity, pain,  
addiction/withdrawal and in the treatment of prostate cancer (for recent reviews, see:  
Rasmussen, K. and Rocco, V. P., Recent Progress in Serotonin (5-HT)<sub>1A</sub> Receptor  
30 Modulators, In: *Annual Reports in Medicinal Chemistry, Volume 30*, Bristol, J. A.,  
ed., Academic Press, New York, 1995, pp. 1-9; Schaus, J. M. and Bymaster, F. P.,  
Latest Developments in Serotonin Receptor Modulation, In: *Annual Reports in  
Medicinal Chemistry, Volume 33*, Bristol, J. A., ed., Academic Press, New York,  
1998, pp. 21-30).

35                   More recent evidence now indicates that 5-HT<sub>1A</sub> agonists and partial agonists  
act in other disease states and conditions by virtue of their ability to inhibit the release  
of glutamate. 5-HT<sub>1A</sub> agonists and partial agonists may be used to treat conditions